AN UNUSUAL BLACK GUM SWAMP IN MAINE: Stands of black gum, *Nyssa sylvatica* Marsh., are infrequent in northern New England. Where they occur they appear to be confined to hummocky swamps of only a few acres. These swamps and their associated vegetation are quite striking and contrast sharply to the typical northern hardwood forests on the surrounding uplands. The deeply fissured black trunks of old gum trees standing among beds of lush green ferns give the swamps a character which does not seem real for northern regions. One such gum swamp in Vermont was described some years ago (Vogelmann, 1969; Fosberg, 1970).

During the summer of 1974 I visited an outstanding example of a black gum swamp in New Gloucester, Maine. About 5 acres of hummocky swamp is located near the summit of Little Hill at an elevation of 500 feet. Although the surrounding forests have been heavily cut-over, the black gum stand in the swamp is nearly untouched. Only several cut stumps were found near the edges, and for all practical purposes the stand is virgin.

Nyssa sylvatica dominates the area and about 60 trees over 12 inches d. b. h. were counted. Trunks of some of the large trees are 22-23 inches in diameter with bark fissures deep enough to put a hand into. Taller trees reach to about 80-90 feet, and one fallen tree 17 inches d. b. h. measured 60 feet to its broken top which was 6 inches in diameter at that point. The trees appear remarkably healthy and vigorous. Smaller trees with stems under 4 inches in diameter are scarce.

Tsuga canadensis (L.) Carr. is fairly abundant with trunks of the larger trees up to 30 inches d. b. h. *Acer rubrum* L., up to about 10 inches d. b. h., is common and some *Betula alleghaniensis* Britton is scattered in the swamp. A few *Picea glauca* (Moench) Voss. are present and there are a number of seedlings of *Pinus Strobus* L. and *Quercus rubra* L. on the hummocks.

The shrubby understory is comprised largely of *Nemopanthus mucronata* (L.) Trel., *Vaccinium corymbosum* L. and *Viburnum cassinoides* L. Other shrubs include *Kalmia*

angustifolia L., *Rhododendron canadense* (L.) Torr., *Alnus rugosa* (De Roi) Spreng. and *Pyrus floribunda* Lindl.

Pools of water are interspersed among the hummocks and mossy logs are scattered about. Sphagnum moss dominates the hummocks along with *Osmunda cinnamomea* L., *Maianthemum canadense* Desf., *Aralia nudicaulis* L. and *Clintonia borealis* (Ait.) Raf. are common on the mounds. Also found here are *Trientalis borealis* Raf., *Coptis groenlandica* (Oeder) Fern., *Smilacina trifolia* (L.) Desf., *Gaultheria procumbens* L. and *Rubus hispidus* L. Near the edges of the swamp are mucky pools with *Iris versicolor* L., *Carex* cf. *brunnescens* (Pers.) Poir. and *Dryopteris Thelypteris* (L.) Gray.

The sloping rim surrounding the black gum swamp supports a heavy growth of *Hamamelis virginiana* L. and *Fagus grandifolia* Ehrh. Beyond the rim the dense cut-over forests are dominated largely by *Acer rubrum* L. and *Betula alleghaniensis* Britt.

Mr. Warner Chandler of New Gloucester, one of the owners of the swamp, gave me a piece of black gum wood taken from a tree he had cut near the edge of the stand. The growth rings are very close and 177 rings were counted on a 4 inch section. Since the larger trees have trunks about 23 inches in diameter the ages of some trees could be in excess of 400 years, which must place them among the oldest trees in Maine. These calculations assume uniform growth rates and allow for a 2 inch thickness of bark.

The ecology and flora of the black gum swamp in New Gloucester, Maine, is remarkably similar to the gum swamp described in Vermont. Black gum near its northernmost range limits seems to be confined to a unique well-defined habitat. A comparison of the flora and ecology of similar old age black gum stands in New England would be useful to determine if these relic stands are indeed as similar as they appear to be.

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